

Regionalism and Energy Cooperation: In Attempt to Look at NEA through Comparative Prism

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要 旨

本論文では、国際関係の要素および地域統合の高いポテンシャルを持つ分野として、エネルギー協力を検討している。エネルギー部門でのより活発な地域協力の影響を受けた、北東アジアでの統合ブロックの形成の見通しを検討するための方向性を示すことが、本論文の主要な目的である。この課題に比較研究の観点からアプローチとするため、本論文は地域主義の比較研究の分野における諸研究を概観している。本論文では、地域的（欧州連合（EU）を例とする）・国際エネルギー協力の現代的システムの特徴づけを行い、さらに、北東アジア諸国のエネルギー戦略を左右する要因を分析している。結論部分では、北東アジアにおける統合プロセスの活性化に域内経済協力が及ぼす影響の評価へのアプローチを提示している。

**Keywords: comparative regionalism, energy cooperation, Northeast Asia (NEA),
European Union (EU)**

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Introduction

It is no wonder that at a first glimpse of the title of this paper leaves a savor of challenge. Indeed, the inquiry looks provocative as rather complex issues are suggested for analysis. Whether there is NEA regionalism? Is intraregional energy cooperation setting-off? To what extent might the experience of other regional groupings (that of EU, in particular) be considered while studying the case of NEA?

The author's previous writing¹ suggests that since the past decade the process of NEA region formation has gained some momentum. On the other hand, it remains accurate to single out the NEA case as, in the words of Ludger Kühnhardt, "regionalization without regionalism".² This generally agreed perception identifies the obstacles to NEA regionalism as stemming from the nations' adherence to big power politics, political mistrust and fundamentally different political cultures. Meanwhile, strengthening interlinkages at the grassroots level and between business circles add confidence that intraregional cooperation can be feasible. To be sure, there are a number of sectors in which the NEA economies are closely associated.

On a less optimistic note, one area increasingly lacks regional coordination despite the acute urge for authentic cooperation. NEA energy agenda is conceptualized, but a real partnership is yet to emerge. Nevertheless, the author's personal perception is that if there is a really promising area for comprehensive strategic cooperation in NEA, it lies nowhere else but in the realm of energy.

Another question, that might be logically raised here, is why an examination of the international energy cooperation is focused primarily on oil and, to a lesser degree, gas, with the other fossil fuels outside the scope of the current study. It is tempting to have a closer look at various facets of the theme at hand. For reasons of space and clarity, the author however has set several restrictions. First, only fossil fuels that have proven to be of potency to play a key role in the process of regionalization, are put in focus of this study. Having shared Russian experts' opinion that "oil is a global source of energy, and natural gas is primarily a regional source, while coal is a local source of energy"³, the author accentuates the importance of petroleum (with some attention also paid to natural gas) as a catalyst for regionalism, while neglecting coal. Second, the vast realm of the issues involved in energy policy and energy political economy is looked at through the prism of their influence upon the prospect for closer regional cooperation. Indeed, as *problematique* addressed is multi-faceted, it is hard to observe this restriction.

Furthermore, this study also sets some preliminary remarks on the agenda for future inquiries on the contribution of intraregional energy cooperation to regionalism. A more thorough evaluation of the linkages within the realm of energy politics would be pending a further in-depth investigation at a later interval.

The limited attention paid to Mongolia and the DPRK in this current paper can be singled as a shortcoming. Although the author fully realizes this disadvantage, two arguments can be suggested to support this approach. With regards to Mongolia, the economy is not of comparable scale to the rest in the region. Therefore, for the reason of its limited involvement into regional energy agenda, Mongolia is slightly touched upon when its determinants are indispensable to the whole regional system. As regards the DPRK, the state delivers a broad number of complex security and political issues that are far beyond the regional reach. Consequently, it requires dwelling upon a realm of specific aspects. These notions, though, are definitely to be addressed within the context of the author's doctoral dissertation.

As for methodological framework of this study, a comparative technique is employed.⁴ Although it took rather long to recognize the virtues of careful comparative analysis, nowadays it is believed to be one of the best device for both testing theoretical propositions and applying particular case studies. An attempt to draw comparative lines with the EU by no means signals that Europe's past is NEA's future or Europe's present is NEA's future. The reasoning for carrying out this study along with a comparative approach is due to the fact that owing to EU longevity, the grouping has yielded an array of experience of tackling various challenges including those related to common energy cluster. Another aspect worthy of attention is that the EU grouping is built upon developed pipeline networks as being one of the fundamentals of the integrated economy. Thus, that might be sought as a probable scenario for NEA in the future.

Hence, the proposed hypothesis for the current study is: multilateral energy cooperation may actuate regionalism in NEA.

This paper is organized into four sections. It commences with a brief discussion on if a comparison between the regional groupings is a worth enterprise and which criteria should be satisfied to accomplish a thorough comparative study. In the following section, some aspects of the overall environment for multilateral energy cooperation are addressed. The next section is focused on principal issues closely linked to international energy cooperation, which are approached from the standpoint of their dyadic nature: supportive and hindering regionalism. The fourth section centers on aspects to be analyzed while assessing energy cooperation impact on NEA integration. In the conclusion, some summarizing remarks and ideas on the theme are provided.

1. Comparative regionalism

To begin with the theme at hand, a few lines on the history of postwar regionalism seem to be in order.

Thus, it falls into three distinctive stages: 1) “closed regionalism” of 1960s when regional economic integration was aimed mainly at which import-substituting industries are to be developed and where to locate them. The prime goal of the grouping was securing raw materials for such industries from member countries. As a means to an end, external borrowing and protective foreign trade policies were heavily exercised. Such model contributed marginally to the economic development of the participants, however it caused them external debt problems; 2) in 1970s “outward looking” (multilateral) regionalism became predominant. A growing number of international organizations (GATT/WTO, etc) members and foundation of new institutions (such as APEC) marked the shift to a new paradigm of broader cooperation within a comprehensive international framework; 3) contemporary regionalism was triggered by the East Asian financial crisis of 1997. This was largely backed by the formation of the RTAs, which are thought to be of a more comprehensive nature than traditional FTAs.⁵

Along with changes on the international and global scale, the theme of regionalism remains amongst those that are well addressed. Despite a burgeoning amount of writings on regionalism in recent years, the number of works representing comparative approaches remains relatively limited. By and large, volumes covering comparative regionalism pertain to one of the two notions. Some authors offering a route into the theme examine it from a standpoint of “area studies”, while others develop comparative studies with grounds in regionalism. It is also no exaggeration to note that the *problématique* is approached from the angle of hegemonic status of studies on European integration.

Ernst Haas⁶ and Leon Lindberg⁷ are credited with making a path into comparative studies on regional integration, as far back as in the latter 1950s. In 1961, Haas listed three sets of “background” factors important to regional integration (social structure, economic and industrial development, and ideological patterns) and determined that their characteristics are favorable to the process of integration in Europe (pluralism, high degree of industrialization and urbanization, and certain degree of homogeneity).⁸

Most analyses examine individual regional processes with attempt to place the case study at hand in a wider comparative context. Studies of this class in different countries are logically inclined to focus on comparisons of the grouping to which the country belongs within the EU. In mainstream, comparative works are generally, influenced theoretically and empirically by European and US scholars.

There is a fewer comparative discussion on the problems and prospects for regionalism in the Middle East and Africa, while the study on regionalism in Latin America is better addressed. Pioneered in 1964 by Haas and Schmitter, the latter was elaborated on Haas’s earlier theoreme by taking into consideration new

parameters, such as size and power of the units joining in the economic union, the rate of transactions among the participants, etc.⁹

Among recent comparative volumes, is Vellinga's edited collection¹⁰ that takes Asia, Europe and Latin America with the comparison build on their responses to globalization, and the volume edited by Mansfield and Milner¹¹ that concentrates on explanations for both regional deepening and institutional variations.

Meanwhile Gamble and Payne¹² have sought to set the agenda for cross-case regional research within the "new political economy"¹³, a project carried a step further by Hook and Kearns¹⁴ who focus on regionalism in "non-core" states. Grugel and Hout¹⁵ focus on regionalisms across North - South boundaries.

The work of Mattli¹⁶ treats regional integration as "the process of internalizing externalities that cross borders within a group of countries", a definition which enables comparison across time as well as space. Shaun Breslin et al.¹⁷ notes that, both area studies and the study of regionalism would benefit from more studies of regional processes that focus on areas other than only Europe and North America.

Amongst scholars covering the theme of comparative regionalism, there are those who stand for that, Europe *circa* 1950 and NEA *circa* 2010, are at similar stages is outlandish generalization. These area specialists identify insurmountable contextual specificities in each region and argue that an attempt to accomplish a comparison between Europe "in-the-past" and NEA "at-present" challenges the very grounds of uniform patterns of development. Indeed, as Table 1 explicitly reveals, there are sheer differences between the Western and Asian development models.

Table 1. Neoliberal Western and Asian development paradigm

Policy issues	Neoliberal Western development paradigm	Asian development paradigm
role of government	minimal government role; development is private sector-led	public-private partnership for development with the government playing supportive role
market failures/ government failures	neglect of market failures/ focus on governmental failures	accept both market and governmental failures and design policy to correct both
stabilization program	focus on eliminating fiscal deficit	focus on eliminating current account deficit with public investment being a central correcting measure
capital accumulation	savings and investment rates are determined by the market and are not regarded as important for growth	savings and investment (traditionally high rate) are regarded as key to growth
financial sector	emphasis on creation of capital markets for raising capital for investment	emphasis on banks before relying on capital markets, use of pension funds and small savings
trade policy	free trade	strategic trade policy with selective import protection/ export promotion
industrial policy	no preferences for particular sectors	idea of lead sector is accepted and policy is geared to encourage preferred sectors
development of entrepreneurship	established and well-functioning framework	some sectors and business entities (e.g., SME) are preferentially regulated
exchange rate policy	market-determined floating exchange rate	market-responsive, but not market-determined
foreign capital	free movement	selective capital control
governance	emphasis on representativeness, accountability, transparency, etc.	emphasis on prestige, high quality and competence of the administrative system and rule of law

social capital	emphasis on universalism	emphasis on particularism, historicity, and social capital
lead ministry	predominance of stabilization-oriented finance ministry and central bank	predominance of a comprehensive planning ministry
social protection	private sector-oriented funds with basic social safety net provided by public sector	defined contribution-oriented social security system with public sector initiative and management
pace of reforms	fast pace of comprehensive set of reforms	emphasis on gradualist pace of partial reforms by sector and by region

Source: compiled from Asian Economic Cooperation and Integration: Progress, Prospects, and Challenges. Asian Development Bank, 2005. p.58.

William Wallace reasons that European regional integration should not be compared to any other regional projects. He points out that specific geopolitical, local, historical and ideational context of the late 1940s and early 1950s yielded a very peculiar model of regional institution-building in Western Europe which simply cannot provide a template for the analysis of other regional projects. Yet, in hindsight, totally different from what it now is, a developmental model was employed. The soil from where seeds of European integration, sprout was first prepared by the Marshall Plan (1947), and consecutive European Coal and Steel Community (ECSC, Treaty of Paris, 1951). Thus, it proves that limited economic freedom, extensive governmental regulation in specific sectors and its overall significant socio-economic and political involvement do not work against the integrative process. On the contrary, it may serve to better determine common strategic goals and develop mechanism for their implementation.

The EU and the European experience *spectre*, of regionalism loom high in comparative studies. Ironically, it is probably fair to state that the EU as an exercise in regional integration is one of the major obstacles to the development of analytical and theoretical studies on regional integration. That is to say, the dominance of the EU in regional studies raises a number of concerns. As Helen Wallace notes, “[too] much of the discussion of Europe and Europeanization has been conducted as if somehow Europe were closed off from the wider international arena.”¹⁸ Perhaps understandably, given the immense complexity of the EU as a system of economic governance, specialists in EU studies have been reluctant to think about broader global and regional processes of which European integration is a part of and to which it contributes.

Also, problems emerge from the assumption that the EU represents the paradigmatic case of regionalism. It draws clear-cut patterns for comparison: if the EU and other regional grouping are compared, then emphasis is almost always on why that other grouping is different rather than the reverse. This dominance of the EU also imposes an understanding of regionalism as being highly formal and institutionalized. To equate mature regionalism with the creation of supranational bodies equivalent to the European Commission, the European

Parliament and the European Court of Justice automatically prejudices any conclusions about the emergence of a world order based on regional organizations.

An additional problem arises from the tightening professionalization of EU studies as a distinct sub-disciplinary domain in political sciences, which is rather reluctant to let in “fresh blood”. It has its own conference circuit, a number of established journals, national and international professional associations and its own internal discourses. There is some reserved skepticism about actual merits of the EU studies` with the argument being that scholars concentrate their activities entirely within their community and spend all but their careers in researching and teaching the EU. This criticism can be partially accepted, although it is true that the EU’s longevity, its institutional complexity and policy reach require considerable efforts and consume much time to obtain a sufficient level of expertise.

Comparison of regional integration processes is a rather intricate task. As Joseph S. Nye pointed out half a century ago “...differences in infrastructure, market mechanism, external dependence, administrative resources, political group structure, interdependence of social sectors, national consciousness, and ideology” remain doubtful about applicability of a comparative approach to regional integration processes. However, such shortcoming can be eschewed “...by formulation of precise hypotheses (with clearly stated limits) which are susceptible to falsification”.¹⁹

Some qualifications seem to be in order. Meaningful questions can be examined about *inter alia* regional projects as a response to the replacement of national markets by international or global markets; regionalism as a response to the internationalization of the division of labor and production; and regionalism as a response to the strengthening of multinational and private policy-making structures. Examining how authoritative actors respond, albeit at different times, to common challenges forces to neglect the major variables and explain how they interact. In other words, it is important to determine what the principal causative factor is and what types of driving forces are at work in every particular case of regionalism.

European regionalism is in many ways different from what has come-to-be in NEA since the 1990s. In the author’s previous writing, it has been described that Asian regionalism is marred by memories of wars and occupations, residual cold war divisions and ideational conflicts, radically different indigenous models of political economy, vastly different levels of development, strengthening competition between the regional powers, etc. To some extent, the overall regional atmosphere in contemporary NEA is reminiscent of that in post-war Europe.

The hypothesis for the current comparative study is built bearing in mind such principal assumptions as disjuncture of temporal stages of the EU regionalism and NEA regional formation and existence of areas central to the process of integration. The former notion resulted in drawing comparative lines between Europe of 1950s and NEA of nowadays. The latter molds a comparative model focused on one particular sector that is energy.

2. Energy cooperation in international relations

Posing that energy was, is and would remain a pivotal factor of civilizational evolution does not seem to be too far-fetched a supposition. The legendary volume by Daniel Yergin is packed with ample evidence that energy resource is a concurrent constituent of societal progress. In Yergin's words, "...three great themes underlie the story of oil. The first is the rise and development of capitalism and modern business. Oil is the world's biggest and most pervasive business... The second theme is that oil as a commodity intimately intertwined with national strategies and global politics and power... A third theme in the history of oil illuminates how ours has become a "Hydrocarbon Society" and we, in the language of anthropologists, "Hydrocarbon Man"²⁰.

Energy is one of the best examples of a dyadic nature: it means to power, but when it comes to politics/economy/political economy, especially those of international and global scope, it often turns into an impediment for harmonious coexistence or to a source of discord. Indeed, energy depending on if and on what terms it is available, could strengthen or weaken nations' political *calibre* and prestige and companies' competitive profile, generate breakthroughs in a broad range of fields or blow out any progress, and, last but not the least, it can improve the ordinary people' daily life of or turn it into a nightmare.

History is witness to many examples of how the need to secure energy supply has acted as a causative factor of war. In the XXth century, the pursuit of resources was one of the reasons for the devastating wars (to mention but two of them - WW I and WW II). Regrettably, the current century has already seen numerous territorial disputes, armed regional clashes and large-scale wars over fossils or issues linked to carbons.

The high profile of the issues at stake stipulates that any country's energy policy comprises of complex aspects, which often stretch far beyond exclusive national authority. Due to the factor of geographical proximity of countries participating in a regional grouping, they are naturally open to cooperation. On the other hand, the states are also exposed to conflicts over access to resources and for consolidating sphere of influence.

In hindsight, the creation of the European Coal and Steel Community (ECSC) after World War II began the process of European integration. The intention behind this initiative was to prevent another war by controlling coal and steel, which are essential materials for warfare. Energy security was the main agenda during the oil crisis in 1970s, and has once again emerged as a common topic of the regions' formation in our days, against the backdrop of spiraling oil prices.

Although the EU has been legislating in the area of energy policy for many years, and evolved out of the ECSC, the concept of introducing a mandatory and comprehensive European energy policy was only approved during the meeting of the European Council in London on October 27, 2005.

The possible principles of an Energy Policy for Europe were elaborated on in the Commission's green paper, 'A European Strategy for Sustainable, Competitive and Secure Energy' on March 8, 2006. As a result of the decision to develop a common energy policy, the first proposal by the European Commission, following a consultation process, on January 10, 2007, published 'Energy for a Changing World'. It claimed to lead to a 'post-industrial revolution', or a low-carbon economy (envisages a cut in carbon dioxide emissions, active use of bio-fuels, energy conservation, development of renewable energy and 4th generation nuclear power, etc.), strengthen competition in the energy markets, improve security of supply (in particular, improving energy relations with suppliers, etc.).²¹

EU energy policy reflects its external components (refer to Table 2). It has included negotiating and developing wider international agreements, such as the Energy Charter Treaty, the Kyoto Protocol, the post-Kyoto regime and a framework agreement on energy efficiency; extension of the EC energy regulatory framework or principles to neighbors (Energy Community South East Europe (ECSEE), Baku Initiative, Euromed energy cooperation) and the emission of trading scheme to global partners; the promotion of research and the use of renewable energy.

Table 2. A legal framework for the international energy cooperation

Organization/Treaty	Year of conclusion	Issues covered	Members/ Signatories	Participants from NEA
International Energy Agency (IEA) of OECD	1974	intergovernmental organization is dedicated to preventing disruptions in the supply of oil, as well as acting as an information source on statistics about the international oil market and other energy sectors. They have a secondary role in promoting and developing alternate energy sources, rational energy policies, and multinational energy technology co-operation	26 parties	Japan, Korea
Energy Working Group (EWG) of APEC	1990	voluntary regional-based forum operating under APEC umbrella. EWG helps further APEC goals to facilitate energy trade and investment, and ensure that energy contributes to economic, social and environmental enhancement of APEC community	21 members	Excluding the DPRK and Mongolia
The Energy Charter Declaration	1991	declares the principles underpinning international energy cooperation, reflects shared interest in secure energy supply and sustainable economic development	56 states/ 19 observers/ 10 international	Japan, Mongolia, Russia (pending)

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(European Energy Charter)			organizations (as of January 2007)	ralification), observers: China, Korea
The Energy Charter Treaty (ECT)	December 1994, entered into force in April 1998	provides framework for energy cooperation by means of: - protection of foreign investments, based on the extension of national regime or MFN treatment (whichever is more favorable) and protection against key non-commercial risks; - non-discriminatory conditions for trade in energy materials, products and energy-related equipment based on WTO rules, and provisions to ensure reliable cross-border energy transit flows through pipelines, grids and other means of transportation; - resolution of disputes between participating states, and between investors and host states; - promotion of energy efficiency, and attempts to protect the environment	51 state and European Communities/ 14 observers/ 10 international organizations (as of January 2007)	signatories: Japan, Mongolia, Russia (pending ratification), observers: China, Korea
The Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA)	December 1994, entered into force in April 1998	requires participating states to formulate policy aims for improving energy efficiency and reducing the negative environmental impact; particular attention is paid to such aspects of a national energy efficiency strategy as taxation, pricing policy in the energy sector, environmentally-related subsidies, etc.	51 state and European Communities/ 14 observers/ 10 international organizations (as of January 2007)	signatories: Japan, Mongolia, Russia (pending ratification), observers: China and Korea
The Energy Charter Conference	established by the 1994 Energy Charter Treaty	inter-governmental organization, governing and decision-making body for the Energy Charter process; a forum to discuss issues affecting energy cooperation among the Treaty's signatories, review the implementation of the provisions of the ECT and PEEREA, and to consider possible new instruments and joint activities within the ECT framework.	51 state and European Communities/ 14 observers/ 10 international organizations (as of January 2007)	signatories: Japan, Mongolia, Russia (pending ratification), observers: China and Korea
The Kyoto Protocol	December 1997, entered into force in February 2005	an agreement made under the UN Framework Convention on Climate Change (UNFCCC), implies reduction of carbon dioxide, five other GHG, provides with mechanism of emissions trading between the parties failed to meet reductions	169 countries and other governmental entities (as of December 2006)	Excluding the DPRK
ASEAN Centre for Energy (ACE)	1999	targeted at the integration of nations energy strategies by providing information, state-of-the-art technology and expertise to ensure that energy policies and programs are in harmony with the goals of economic growth and environmental sustainability of the region	ASEAN members	-
Energy Community South East Europe Treaty (ECSEE)	October 2005, entered into force in July 2006	sets up a European Energy Community (the EU <i>acquis communautaire</i> in the relevant fields of Energy, Environment, Competition and others); covers the sectors electricity, natural gas and petroleum products, etc.	EU, Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, UNMIK (as Kosovo representative under SC resolution 1244)	-
The Asia Pacific Partnership on Clean Development and Climate (AP6)	January 2006	over 100 long-term projects aimed at clean energy capacity building and market formation are initiated; activities are to deploy clean energy and environment technologies and services. The pact allows countries to set their goals for reducing GHG emissions individually, with no enforcement mechanism	parties: Australia, China, India, Japan, Korea, and the US	China, Japan, Korea; Russia expressed its interest in joining the Pact
Global Roundtable on Climate Change	February 2007	launched "The Path to Climate Sustainability: A Joint Statement by the Global Roundtable on Climate Change". The Joint Statement outlines a bold post-Kyoto framework: outlines ways to affect change at the levels of policy and industry, particularly in regards to creating sustainable energy systems necessary for achieving economic growth	endorsed by over 100 participating corporations, research institutions, and government organizations	Excluding the DPRK and Mongolia

Source: composed by the author from <<http://www.encharter.org>>, Vladimir I. Ivanov, A Cooperative Energy Regime for Northeast Asia: Learning from Other Regions <<http://www.keei.re.kr>>

Though the ECT was originally conceived in Europe in the early 1990s as a forum for East-West cooperation, in recent years it has taken on a broader role. In this context, it is already possible to see the outline of a common multilateral framework for energy cooperation in NEA. For the NEA states, ECT provides vast potential for cooperation. The majority of NEA nations have already turned into key actors of international energy relations. It is true with regard to the grand world energy supplier Russia, large energy importers China, Japan, and Korea, as well as in respect of China, Japan, Korea, and Russia's investments in energy projects.

With the exception of their membership in APEC and ASEAN forums, NEA states have not yet achieved much progress in fostering multilateral organizational model across their boundaries. For that reason, participating in ECT, NEA countries could benefit from an institutionalized system for investment, trade and transit promotion.

In NEA, key energy-importing economies share a common interest in reducing their present reliance on the Middle East through diversifying the range of energy resources they consume. This creates solid grounds for strengthening cooperation with Russia. Indeed, one of the major developments of the last years, which has brought the debate over NEA energy cooperation into much sharper focus is the development of the Russian program for a unified system of gas extraction, transportation and gasification in Eastern Siberia and large-scale East Siberia – Pacific Ocean oil pipeline project. This has major implications for both the social and economic development of Siberia and the Far East, and also for the integrated future of NEA. It is projected, that demand for energy resources in NEA would increase at higher than the global average. In this context, size and relative proximity of the East Siberian and Far Eastern reservoirs suggests a rich potential for cross-border cooperation in both oil and gas (including LNG which is likely to take up some of the incremental demand) sectors.

An apparent commitment in projects designed to increase energy flows within the NEA, actualizes the significance of ECT. With huge long-term (primarily, private) investments required to create energy infrastructure linking Russia with the NEA markets, the need for stability in the relationship between investors and host governments is particularly acute.²² Energy projects tend to be fixed, highly capital-intensive and with payback periods stretching sometimes over decades. For these reasons, investors should be guaranteed from being exposed to non-commercial risks such as discriminatory treatment, direct or indirect expropriation, or the breach of individual investment contracts. The binding rules contained in the ECT can play a positive role in mitigating these risks. As a result, they can foster the confidence that is

necessary for investment decisions, and also reduce the cost of investment capital on a competitive international market basis.

Another important feature of the ECT is its specific attention to cross-border energy flows, and particularly to energy flows in transit. This is a major strategic issue in Eurasia, as hydrocarbons are transported across increasingly large distances and different national jurisdictions. By nature, energy transit is an activity that involves a chain of countries. A reliable transit regime in a large geographical area such as NEA therefore has to be based on common standards for access and transparency to which the nations subscribe as part of a multilateral cooperation process.

Under the prospects of massive development of the East Siberian reserves, not only a market opportunity emerges for Russian carbons and NEA states get a chance to optimize their supply, but it opens a genuinely new chapter in multilateral cooperation in the region. For that reason, the ECT provisions in such key areas as the protection of investments, encouragement of more transparent and competitive markets, promotion of energy efficiency, etc. may serve as a framework for facilitation of a regional dialogue on energy policy and constitute the grounds for the formation of an NEA Energy Community²³.

3. Specific issues associated with international energy cooperation

In recent years the geopolitical landscape has changed substantially: the end of the cold war and the emergence of new political and economic powers have reshaped the context of international political and economic relations in the world. Moreover, these changes greatly affected the direction, risk profile and size of energy investments and energy trade flows, led to adaptations in governments' energy policies and energy companies' business strategies. A new context for energy cooperation had been created.

3.1. Geopolitics and energy political economy

Inquiry on the international relation from the standpoint of geopolitics opens three main perspectives: international (focusing on the dyadic behavior of states, in lieu of a defining system), regional (focusing on the particular patterns of behavior among geographically-proximate and culturally-similar states), and global (focusing on the coordination problem of states in a general system of interaction). Along with shrinking supplies of fossil fuel available for the world's steadily growing energy needs, issues from these three realms are increasingly intertwining and taking on an ever-seen complexity.

Speaking about carbons geography, a massive triangle made of such regions as the Caspian Sea (with

surrounding countries Kazakhstan, Turkmenistan, Iran and Azerbaijan), Central Asia (including Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan, Afghanistan, Pakistan and into China and India), and the Persian and Arabian Gulf states (Oman, United Arab Emirates, Qatar, Saudi Arabia, Iraq and Iran) must be referred to as home to the world's largest oil and natural gas reservoirs. With Russia added to the list, the fossils geographical picture is almost complete. Significance of these areas is equally mirrored in the global geopolitical map.

There are two fundamental issues determining almost everything about contemporary energy politics: the fossils exhaustibility and their price.

Since the early 1930s, there is an increasing interest in the problem of resource sufficiency. One of the outstanding economists, Harold Hotelling, had in fact founded the contemporary economic theory of exhaustible resources as far back as 1931.²⁴ His work incorporates almost all the issues that nowadays are considered relevant in this field: optimal exploitation, free competition versus monopoly, extraction costs, oligopoly and optimal taxation.

The theoretical framework for contemporary oil related studies was developed by King Hubbert, who created a methodology of prediction of the peak of oil production (coined "peak oil" later). To put it simply, "peak oil" means that the world's demand for oil has outstripped supply²⁵. In 1956, Hubbert's assessments contained predictions on the peak of US domestic crude oil production as to happen in some year between 1966 and 1971 (actually occurred in 1970). He is also credited with forecasting the oil crisis of 1970s.²⁶

As regards to theoretical foundation on price for exhaustible natural resources, Hotelling formulated the rule (which was named after him) that the price of nonrenewable resources should follow the interest rate.

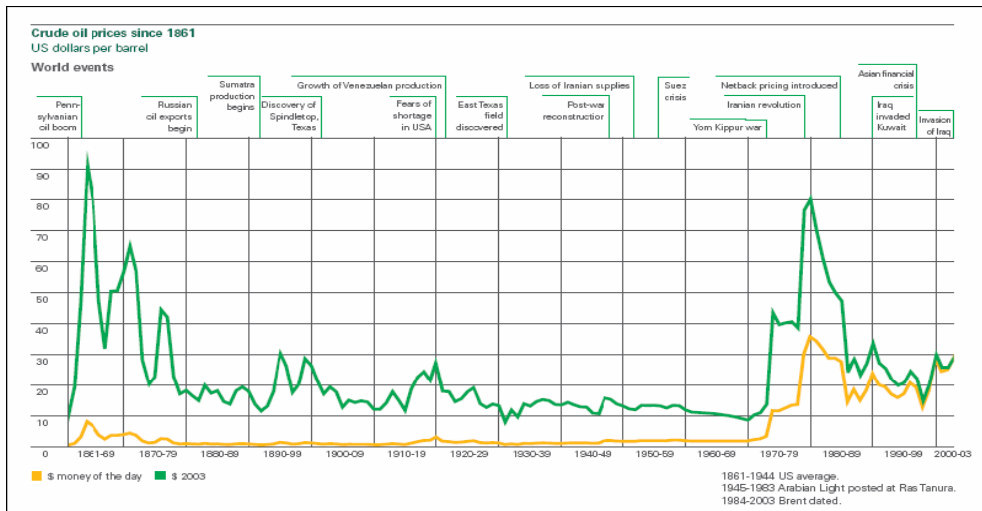
The concept of "peak oil" may serve to explain fundamental sources of impending global conflicts. The economic consequences of the absence of abundant fossil fuels are rising prices which have an overall negative impact, and they are especially detrimental to non-oil producing countries (therefore, importing oil) because balance of payments worsens for them in their attempts at maintaining domestic energy supplies.

Correlations between available reserves, demand, oil prices, currencies, economic downturns and wars are central issues of numerous studies. Amongst the volumes investigating various aspects of this theme, are those by Clarke (analysis of then approaching Iraq oil war)²⁷, Campbell (prediction that 2007 is the global "peak oil" year)²⁸, Cavallo (proposition that Hubbert's model should be considered as an econometric model, with its applicability determined by how well technological, political, and economic conditions are satisfied)²⁹, etc. Although it is natural that with the passage of time, some postulates embodied in previous

studies require some adjustment to meet new realities, they remain vital insights worthy of examination for grasping how the problem of short energy supplies operates.

The figure below (refer to Figure 1) may serve as a pithy illustration on what type of events were governing the ups and downs in the global oil market and how huge the price fluctuations was over the last 150 years.

Figure 1. Price of crude oil



Source: BP Statistics 2004.

The upper line on the graph (showing the price of oil in constant dollar terms) represents that over the period of the highest increase in production (the first half of XIX century) the price of oil steadily declined. That was the trend until the oil crisis of the mid and late 1970s that the price increased substantially due to a manipulated market and political events (policy by OPEC and wars). Thus, the price of oil was sensitive to non-market factors and was not a right signal to the consumer that the peak of oil extraction is approaching.

The price crash of the mid 1980s took the wind out of the sails of any effort to convince the world that something should be done with regards to energy conservation and to urgently research renewable energy options; so that they could be brought on-stream in an orderly manner as suggested by Hubbert. The buoyant world economy in the latter years of the XX century driven by globalization and the international concerted move to deregulate vertically integrated energy supply companies has kept energy costs lower than necessary to give price signals to trigger the appropriate investments in really sustainable options. These trends, together with other major political events, including the hyped up war on terror have substantially neutralized any

effort to look at the future of the world energy situation in a rational manner.

When the global oil market set-off to become tighter, natural gas as a means to cover enlarging gap between energy demand and supply has gained attention in national policymaking circles and corporate planning. Although decreasing oil supplies and increasing gas supplies are interdependent and interlinked, this is not a case of “one goes up if the other goes down”. Peak oil precedes peak gas, but the time interval between the two is not determined. How fast the peak gas in net total gas production and supply will be reached depends on how gas/oil tradeoffs are made, driven by relative prices and other factors, especially the cost and time needed to build gas gathering and recovery infrastructures for “associated” gas, and new, almost exclusively liquefied natural gas (LNG) infrastructures for “stranded” gas.

Actually, geography of gas is not slicker than that of oil. Apart from Russia, the world's biggest gas reserves are in Iraq, Iran, the UAE, Qatar, Turkmenistan, Nigeria and Venezuela³⁰. A glimpse into the world ranking gas “haves” gives food for thought about how uneasy the issue at hand is. Although the political regime in Russia could by no means be compared to the rest in the group, there is still call for concern. One flip of the coin is that Russia is believed to be already at the edge of “peak gas”. Another troubling point is ever-growing indictments by the world energy-importing community for its rising energy nationalism (with *raison d'être* being the much-talked-of disputes over gas transit via Ukraine at the end of 2005 - beginning of 2006 and via Belarus during the end of 2006). The tensions certainly overshadowed the scope of bilateral relations (Russia - Ukraine and Russia-Belarus, respectively) and resulted in worldwide condemnation of Russia's behavior and labeling it by the EU (to which Russia is a strategic gas exporter), and US (which are politically omnipresent and simply cannot miss a chance to act in any energy related play) as “unreliable supplier”.

Recent developments are pretty much persuasive testaments that under the global flow of energy, assuming ever-growing economic and strategic prominence, oil and gas pipelines have become the major focus of international geopolitical competition. Three factors explaining the increasing importance of pipelines, in particular, appear to be at work: “...the growing worldwide demand for oil and natural gas; a shift in the center of gravity of oil production from easily accessible coastal regions to remote interior reservoirs; and the growing politicization of energy production and transport”.³¹

3.2. Energy security

In the past years, “energy is becoming a matter of “high politics” of national security”.³² The number of concerns is rather extensive³³ and can be presented roughly as follows.

In the realm of *geopolitics*, uncertainties originate from: (-) instability of oil exporting nations. The strikes in Venezuela, the war in Iraq, and the disruptions of Angolan and Nigerian oil were examples of what could happen if this occurred in other countries such as Saudi Arabia and Iran; (-) terrorism, asymmetric attacks on oil facilities, sabotage, etc. The Gulf containing over 65% of the world’s proven reserves has no attack-proof security system. It may take only one asymmetric or conventional attack on Ghawar³⁴ or tankers in the Strait of Hormuz³⁵ to throw the market into a spiral; (-) proliferation of WMD. A nuclear black market provides the highest concerns; (-) embargos and sanctions. Another OPEC oil embargo is highly unlikely. However, if oil is ever used as a weapon to combat US or Western foreign policy or if sanctions were imposed on Iran, for example, it will have devastating effects on the global economy; (-) ethnic conflicts and strife. Currently, the conflict in the Niger Delta provides an example of how devastating such crises can be.³⁶

On the side of *macroeconomics* key uncertainties can be summarized as: (-) the sustainable and spare capacity of oil producing countries. Debates are growing over spare capacity of OPEC nations, and their ability to “balance the market.” Perceptions are as important as realities. The market’s lack of confidence in the producers to meet the demand adds a risk premium to any estimates and pushes prices up; (-) the long-term elasticity of demand. The development of alternative sources of energy, efficiency, and conservation have long-term effect on the market, but time lags, investment costs, and delivery prices uncertain at best in the foreseeable future; (-) the long-term elasticity of supply. Major debates exist over the size of proven, possible, and potential resources’ rates of discovery, development and production costs, fields life-span, and the impact of advanced technology; (-) market forces are not afoot all the time. Geology and politics have created petro-superpowers that nearly monopolize the world's energy supplies. Nowadays, foreign governments control up to 77 % of the world's oil reserves through their national oil companies.³⁷ These governments heavily determine oil prices through their investment and production decisions that are largely made for political reasons; (-) the refining capacity and inventory build up of the importing nations. The lack of ability by importing states to refine crude oil and distribute in the domestic market in a timely manner can create bottlenecks that not only squeeze the average consumer but also have negative impact of demand and price of crude oil; (-) the overall economic situation. While it is clear that oil prices and economic growth in developed countries are negatively correlated, it works both ways. High oil prices have

negative effect on economic growth in consuming states, but low economic growth in industrialized nations causes a decrease in demand for oil and lower oil prices; (-) the rise of new economic powers. In recent years, the oil market has experienced an unexpected increase in demand of oil from countries in Asia such as China and India. According to the EIA, this surge from emerging countries will account for 45% of the increase in oil demand over the next 20 years.

As regards to *geology*, oil reserve uncertainties are crucial: (-) true nature of reserves: There are ongoing debates on the reliability of reserves. The USGS 2000 continues to be the benchmark estimate, however, as with any estimates, forecasting uncertainties exist. Furthermore, analysts disagree about the definition of “known”, “undiscovered” and “proven” resources; (-) Canadian tar-sands are estimated at 175 bln barrels. If included, they raise world proven reserves by 15 %, from 1.188 trln barrels to 1.363 trln barrels of proven reserves; (-) Venezuelan proven extraheavy bitumen deposits estimated at 270 bln barrels also make a significant addition; (-) impact of technological gain. Some experts argue that aging oil fields have higher water cuts and that vertical wells cannot be used. Other energy estimates do not take into account new technological developments, which may change the estimate of “possible” and “probable” reserves; (-) ability to substitute for current super-giant and giant fields. It has been argued that new field discoveries do not support reserve estimates, and major producers (Saudi Arabia, Iraq, Kuwait, and the UAE) rely on aging super-giant fields that were discovered in the 1950s - 1960s and are in decline, and that none of these kind of fields has been found in recent years; (-) rate of decline in fields. The percentage of oil reserves in the fields that have been siphoned is a contentious and uncertain estimate. Analysts and investors have to rely on independent estimates and the announcement by oil companies; (-) rate and size of new developments and discoveries. Outside analysts have to rely on the discovering country’s announcement and statement for estimate of any new discoveries; (-) inaccuracy of 3-D seismic modeling. It has been doubted if new technologies that use computer modeling are adequate. They are believed to provide a good estimate of possible reserves, but they do not replace old fashion drilling and physical measurement.

Oil production uncertainties originate from: (-) little sustainable spare capacity. With the exception of Saudi Arabia, in 2005, the rest of the world had no spare capacity. It is questionable if there were sudden surges in demand (high economic growth) or distributions in supply of other exporters (the Iraq war in 2003, Venezuela strikes in 2004), will producers be able to meet such shortages; (-) elasticity in importer conservation, efficiency, and alternative supply and time/uncertainty lags. One of the flaws of the current forecasts by the EIA, IEA and OPEC is that they do not take into account changes in the elasticity of supply

and demand. Long-term and mid-term elasticity has an impact on the demand, supply and price, which in their turn change investment incentives and production capacity; (-) producibility at given prices relates to the notion that the “easy oil” era is over. Oil recovery is more costly, and price of oil has to be high enough to cover variable, fixed, and sunk costs and investment; (-) technological gains in the upstream industry are not anticipated by current production capacity forecasts, while some gains will definitely bear fruit in terms of enlarged supply; (-) the sustainable inflow of investment to replenish natural depletion of current oil fields is vital. However, limited openness to foreign investment is often a major disincentive for international oil companies³⁸. On the other hand, lack of security and stability, rigid foreign investment legislations, and transparency prevent the FDI inflow into developing countries. Major oil exporters like Saudi Arabia and Kuwait (and outside the Middle East, Mexico) remain largely closed to foreign investment, while in other countries, such as Iran - complex production-sharing and buyback deals discourage IOC involvement.

The focus of energy security problem varies from country to country, however the utmost attention is paid to ensure sufficient, reliable and environmentally responsible supplies of energy. If, say, for the EU, given its location and dependency on one major supplier, energy security embodies in such principal issues as energy interconnections (for that purpose Trans European Networks Programme for Energy was launched in 1995), diversification of energy supplies (mainly at the expense of alternative renewable energy resources including development of bio-energy), and energy efficiency (within framework of Intelligent Energy – Europe Programme)³⁹, for majority of NEA countries, energy security agenda transforms into tasks to ensure: (-) energy supply at affordable price (in particular that of oil, as gas plays a rather limited role in countries’ energy mixes). Since long ago, NEA countries have become acquainted with all the “merits” of the Asian “premium”. Not only that it breaches national budgets, but it narrows options for economic agents to freely develop businesses as “premium” results in extra-burdens undermining their competitiveness; (-) sufficient supply. The problem here is that geographical proximity of NEA states naturally stipulates their inclination towards similar suppliers. Yet, China’s resource appetite has become the token of the global debates over whatever their topic is, not to mention the debate about the energy. Thus, it is especially the misfortune of NEA countries to have such an economic giant just next door. The powers are involved in a tough rivalry in their chase of resources both within their regional borders (on- and off-shore) and beyond; (-) secure energy transportation system. Every energy importing country naturally worries about risks of interruptions to supply from unstable countries, monopolistic pricing by dominant supplier countries, prospect of eventual resource scarcity, etc. NEA importers worry additionally about the risks of attacks or blockades of sea lanes (termed as

the “ares of instability”) such as the Strait of Hormuz, which is of great importance to Japan and the Malacca Straits that is vital as an oil import route for China, Korea and Japan.⁴⁰

3.3. Resource nationalism

Another contemporary core issue with regard to integration between energy producing and consuming nations is resource nationalism, which is defined by members of the Task Force⁴¹ as “...intentional policies of the governments of energy producing nations targeted to limit foreign participation in the development of energy resources, and/or provide advantage to national energy companies in developing those resources”.

Resource nationalism has recently become one of the crucial points of concern with regard to future global energy security. According to the IEA, access to development of no less than 57 % of the world’s remaining oil reserves is either fully or partially limited for international energy companies (IOCs), with the priority given to the national energy companies (NOCs). Although the main wave of nationalization in energy producing nations had passed in the second half of the 1970s, recently in some energy producing nations there have been increasing trends of government interference with the purpose to provide market preferences for national energy companies, as well as attempts to limit foreign participation in the national energy sectors.

To a certain extent, resource development nationalism may be tolerated, especially taking into account that certain energy producing countries manage to keep their commitment to serve as reliable suppliers of energy to the global markets while keeping development of energy resources purely under national control (e.g. this may be the Saudi Arabia case). However, it should be noted that uncertainty surrounding future deliveries of the energy resources to the global markets due to resource nationalism serves as a major factor of more general uncertainty with regard to future energy security. For instance, some problems with the stability of supplies caused by restricted access of international energy companies to development of energy resources in certain countries may be associated with either the inefficiency and incapability of national energy companies (e.g. this might be the Mexico case) or politically motivated actions of certain governments targeted to intentionally limit the supplies of energy to global markets with the purpose to achieve some economic or political goals.

It is understandable, that with some variation in scale and depth of government involvement, in any economy, the energy sector is subject to special regulations (refer to Table 3). Some resource rich nations have opted to grasp total control over the industry by nationalizing energy companies, prohibiting or restricting FDI, etc. The others adopted a softer approach implying mainly regulation of sub-soils use.

Table 3. Foreign investment in upstream oil sector of selected countries

Country	Foreign participation allowed	Type of participation
Algeria	Yes	Joint ventures (JVs) or partnership; Production sharing contract (PSC); Risk service contract (RSC)
Angola	Yes	Commercial company or consortium (similar to JV arrangements with the NOC, Sonangol); PSC
Indonesia	Yes	PSC
Iran	Yes	Buyback schemes (similar to RSC)
Iraq	Yes	Considerations of allowing PSC contract ongoing
Kuwait	No	Consideration of allowing buyback schemes ongoing
Libya	Yes	Exploration and PSC
Mexico	No	Not applicable
Nigeria	Yes	JVs ; PSC ; SC
Qatar	Yes	SC ; PSC
Saudi Arabia	No	Not applicable
United Arab Emirates	Yes	Concession rights (up to 90% of oil produced is from joint ventures involving national oil companies)
Venezuela	Yes	Operating service agreement (same as service contract) Risk/project sharing agreement (this is a blend between JVs and PSCs . The exploration stage is conducted as a PSC , while the development and production stage is conducted as a JV). Strategic associations (same as JVs)

Source: Kalpana Kochhar, Sam Ouliaris, and Hossein Samiei, What Hinders Investment in the Oil Sector? February 22, 2005. p. 8 <<http://www.api.org/aboutoilgas/security/upload/Kochlar2005.pdf>> (accessed on March 1, 2007).

Each form of foreign capital participation, envisages somewhat both sides' (foreign investor and national economy) balancing on the edge between benefits and losses (refer to Table 4). All the time the problem of foreign investment implementation actuates rules of zero-sum game and with the best choice being the policy of compromise.

Table 4. Merits and demerits of various foreign participation arrangements

	Joint ventures (JVs)	Production sharing contracts (PSCs)	Service contracts (SCs)
Characteristics	Partnerships between the National Oil Company (NOC) and one or more International Oil Companies (IOCs). The partners share the exploration and production costs in the proportion of their equity stakes. If exploration is successful, oil produced is shared in the proportion of the partners' equity stakes. Usually, the NOC has majority shareholding	IOCs fund all the operations and profits are shared according to the agreed terms after the company has recouped its expenditure.	The IOC (contractor) funds finances and manages exploration, and may recover his investment plus an agreed mark up, all in crude oil. The exploration period is not to exceed 5 years, and if no oil is found the contract is terminated and the IOC loses its investment
Merits	<ul style="list-style-type: none"> - Joint risk-sharing between the NOC and the IOCs. - IOCs are granted concession rights to oil produced for a long period 	<ul style="list-style-type: none"> - IOCs enjoy increased autonomy in running the exploration and production operations. - Allows for the rapid recovery of invested sunk cost by the IOC. - It is considered the most attractive investment model by IOCs and has been successful in attracting foreign investment in most countries 	<ul style="list-style-type: none"> - IOCs enjoy maximum autonomy in exploration. - The relatively short exploration period will spur IOCs to invest in exploration quickly
Demerits	<ul style="list-style-type: none"> - NOCs delay payment of their portion of the costs. - Interference of the NOC in the running of the JV operation with IOCs needing 	<ul style="list-style-type: none"> - IOCs bear all the exploration risks. This is an ambivalent point as NOCs regard this as a merit of PSCs, since they are not exposed 	<ul style="list-style-type: none"> -The reward received by IOCs is not commensurate with the risk they face. IOCs bear all of the exploration risks, but do not get any share of the profit oil.

	to obtain permission from NOC before any major capital spending can take place	to any exploration risk under the model. - Under PSCs, IOCs only have prospecting rights on an oil field for a relatively short period, usually 30 years	<ul style="list-style-type: none"> - This system by offering a fixed rate of return (in Iran, this is usually around 15%-18%), implies that NOC bears all the risk of low oil prices. - The structure of the model could result in a lack of cost consciousness, especially after oil is discovered with the IOC incurring cost frivolously, knowing that cost incurred will be reimbursed at a mark-up. - Not considered attractive by IOCs
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Source: Barrows Company, Basic oil laws and concession contracts: original law for various regions
<<http://www.barrowscompany.net/index.htm>>

It is natural, that the rate of taxes and royalties varies considerably between countries according to such parameters as maturity of the upstream sector, investment risk and short-term economic and political situation. However uncertainty about licensing and fiscal terms offered by host governments, frequent changes that retrospectively affect the taxation of sunk investments, etc. considerably impedes foreign investment. To name a few examples, recent increases in royalties and taxes in Venezuela and Kazakhstan added to government revenues but discouraged investment by IOCs.

The buyers also develop their strategies including the acquiring of overseas resources, rights for their exploitation, participation in projects on carbons` transportation infrastructure, etc. In this respect, NEA states can be featured by practicing national oil companies (NOCs).

Economics does not fully explain the rationale behind this phenomenon. In order to better understand the drivers and different approaches of the NOCs, it is important to look at their pattern of ownership, their domestic experience, mandate, and relative size. For example, listed companies have some obligations to their minority shareholders, which may constrain certain investment but enable greater strategic autonomy from the government. Those NOCs that are major domestic producers (China) will be looking to grow into competitive multinationals. They may also be able to offer complimentary investment opportunities to the host country. Companies, whose business is primarily international (Japan and Korea), experience greater pressure to deliver government`s targets for foreign equity.

In China, the principal state companies are not listed but have listed subsidiaries with institutional and private minority shareholders. The two principal companies, CNPC (including PetroChina) and Sinopec (China Petroleum & Chemical Corporation), are integrated companies, with CNPC/PetroChina having the heavier weight upstream. CNPC/PetroChina`s international operations have a complex structure. Until mid-2005, most of CNPC`s overseas assets were held through an international arm, CNODC. A large share of overseas assets was then transferred into a new company called NewCo, with CNPC and PetroChina each holding 50% of the shares. After that deal, most of the overseas assets could be considered as jointly held by

CNPC and PetroChina, while some assets, such as operations in Sudan, are held entirely by CNPC. A third company, CNOOC (China National Offshore Oil Corporation) specializes in offshore operations with foreign partners in China, as well as overseas. The traditional business boundaries between the three Chinese NOCs are being eroded outside China as CNPC and Sinopec move into offshore projects, while CNOOC is entering the onshore business. CNPC, Sinopec and CNOOC are also competing for liquefied natural gas (LNG) projects, while CNOOC is building refining capabilities.

There are also other actors involved in overseas equity investments. Sinochem, the company that historically had a monopoly on China's oil trade, and CITIC (China International Trust & Investment Corporation), the main state investment fund for investment abroad, have both been investing in foreign upstream projects. A consortium of small Chinese private companies, also moots overseas investment: namely the China International Petroleum Investment Union (CIPIU), the Great United Petroleum Holding Company Ltd (GUPC), a private downstream petroleum group, and recently the Chinese Petroleum Investment Fund Management (CPIFM).

In contrast to these strong corporations, the responsibility for oil policy among different government agencies is divided; hence corporations can drive their own agendas. The listed companies generate and retain their own cash flow, although in principle foreign investments over \$ 200 mln require review by the National Development and Reform Commission (NDRC) and approval by the State Council.

In Japan, the government decided in 2002 to dissolve JNOC, the national company, some of whose assets were injected into newly listed companies including INPEX and JAPEX (Japan Petroleum Exploration Co. Ltd.) and other private companies. INPEX was also charged with some of JNOC's former investment functions. In 2004, the government established JOGMEC (Japan Oil, Gas and Metals National Cooperation) as a governmental investment and technical support vehicle.

Japan's private sector is taking the leading role in overseas energy business expansion, with support through liabilities guarantees, equity capital and industry intelligence from JOGMEC and its predecessor JNOC – both agencies of METI. Of the 70 private companies engaged in commercial exploration and production overseas, the largest are INPEX, JAPEX and AOC (Arabian Oil Company Ltd.).

In April 2006, INPEX Group and AOC generated the largest revenues among Japanese oil companies, in 2006, with \$ 5.99 bln and \$ 5.97 bln respectively, more than three and a half times that of the second largest Japanese NOC, JAPEX. In 2005, 57 % of INPEX's net production came from its activities in the Asia-Pacific, with large-scale operations in offshore Indonesia. INPEX is also Japan's major supplier of LNG.

INPEX Holdings anticipates net sales in 2007 of \$ 6.68 bln. The new joint entity, INPEX Holdings, has a combined oil and gas output equivalent to some 372,000 b/d and reserves of around 1.8 bln b of oil equivalent. This transformation places it, in scale only marginally behind the US company Apache.⁴²

JAPEX is 49.94 % owned by METI and conducts exploration and production activities in the Asia-Pacific region, Russia, Canada, North Africa and the Middle East. JAPEX holds 11.33 % of INPEX Holding's shares. Established as a result of a concession agreement between the Saudi Arabian authorities and the Japan Petroleum Trading Company in the late 1950s, AOC's main exploration and production activity was based in Saudi Arabia and Kuwait, in what is known as the offshore 'Divided Zone' between the two states. By 2003, the concession agreements with both states expired. AOC now provides technical assistance to Kuwait and has a term contract for 100,000 b/d of Kuwaiti crude.

Korea has two main national companies exploring for oil and gas abroad, the largest is South Korea National Oil Corporation (KNOC), which was founded in 1979 with the purpose of securing stable supplies of oil. It is a simple model of a state company devoted entirely to developing upstream oil supplies abroad, and to managing the country's strategic petroleum reserve, without competition from other Korean companies in either the oil or financial markets.

As of February 2006, KNOC was involved in 23 projects in 14 countries, including Vietnam and Libya. In the following year, it gained a foothold in Nigeria (two deepwater blocks), Uzbekistan (Aral Sea), the Gulf of Mexico (for gas) and Canada (oil sands) as well as securing further assets in a gas field in Kazakhstan and an oil development in Russia's Far East. KNOC is an operator in 9 oilfield blocks.

The South Korean Gas Corporation (KOGAS) was established in 1983, essentially as an importer of natural gas. KOGAS is a relative newcomer to the international scene and the role of upstream business is still non-core. It started to participate in international projects through equity participation in overseas LNG projects, which export LNG to South Korea such as Oman, Qatar and Yemen. KOGAS established the International Projects Group in 2001 to expand its overseas business activities. Subsequently, the company has taken the lead in the PNG development project in Irkutsk, Russia along with CNPC (China) and RUSIA Petroleum (Russia). The PNG project in Irkutsk is a large-scale undertaking to connect pipelines from the Kovyntinskye gas field in Northern Irkutsk to supply natural gas to China and South Korea. KOGAS is taking part in the South Korean consortium for exploration in west Kamchatka, Russia (signed 2005) and has also secured a foothold in the Southeast Asian gas market by establishing joint investments in two Myanmar gas fields with a total estimated reserve of 5.7-10 trln cf (along with Daewoo and Indian NOCs, ONGC VL and GAIL).⁴³

The financial crisis of 1997 seriously affected South Korea's overseas oil development. The number of new projects decreased from 29 in 1997 to only 8 in 1999, and during the 1998-2002 period, a total of 54 projects were abandoned. Recently, Korean NOCs are making a come back with governmental support through varied diplomatic initiatives.

The Chinese companies, with their large domestic refining, distribution and retail activities, in controlled markets with controlled prices, are not in a comparable position. The two main Japanese companies exploring overseas do not engage in refining and marketing, though there a number of small overseas investments by Japanese trading companies and private-sector companies with downstream operations in Japan. By various ratings, CNPC/PetroChina and Sinopec are ranked among the world's top 50 oil and gas exploration and production companies. CNPC/ PetroChina is the eighth largest producer of oil and the twelfth largest producer of gas.

NOCs of NEA do not display their willingness to carry out joint projects. On the contrary, they are increasingly competing for overseas projects in the Middle East, Central Asia (especially, post-Soviet countries) and Africa. This is explainable as these countries are rivals striving for energy resources. It is worth noting that Chinese NOCs, persistently striding for carbons in almost every resource rich locale, made prominent success in gaining the rights over bids for overseas oil and gas reservoirs. By the beginning of 2005, the three Chinese NOCs had invested \$ 7 bln in more than 100 overseas oil exploration and development projects in more than 30 countries.⁴⁴ In 2005 and 2006 their activity increased by times with the results being (from 1993 to 2006): the total investment of \$ 27.178 bln in more than 120 projects with the main destination being Africa (accounts for 35 % of the Chinese NOCs investment), followed by Russia and Central Asia (26 %) and the MENA countries (25 %).⁴⁵

In their quest for deals, Chinese NOCs tend to bid aggressively against their rivals and at times they commit huge investments relative to the size of reserves (for example, in Venezuela and Kazakhstan). They also accept higher risks of not fully explored deposits in hard-to-reach economies (like Sudan and Iran). This strategy has already entered the fruition stage as, for instance, Africa became a key oil exporter to China. In 2005 China imported nearly 701,000 bpd of oil from Africa, approximately 30 % of its total oil imports.⁴⁶ China anticipates increasing that amount to 25 % in the next ten years and has been carefully paving the way to ensure that it's objective are met.

Summing up this section, all the NEA energy importers are planning a greater role of NOCs in their nations stakes for a diversified energy imports. It must be admitted, though, that it is China that is

successfully implementing its targets while Japan lags behind its projections. What is even more sorrowful, is that Japan lost a bid that it had been long striving for (Azagedan field, Iran). Under such circumstances, it seems unrealistic to achieve by 2030, the goal of 40 % share (from current 15 %) of oil imported by Japanese NOCs from their overseas projects.

4. Outline for examination of multilateral energy cooperation impact on region formation

Before setting about assessment of impact of energy cooperation on region formation in NEA, initial conditions should be looked at. For that reason, analysis of particular indices representing the burden of energy imports for the national economy seems to be proper at the outset.

NEA's energy profile looks impressive: not only does the region comprises of the world's biggest energy consumers ranked the 2nd (China), 3rd (Russia), 4th (Japan), and 10th (Korea)⁴⁷, but it is also host to the world largest energy exporter - Russia.

In 2005, the region's largest consumer augmented oil consumption by 46 % since 2000, while production has increased by only 12 %. By 2005, China was importing 46 % of its consumption. Over the same period, Japan managed to curb its oil consumption by 4 % and it is expected to pursue this line. As for Korea, its consumption has been mostly static⁴⁸.

On the whole, major NEA nations (except Russia) have always been heavily dependant on overseas energy resources (refer to Table 5). However with China turned into net-importer from 1993, this addiction has become severe.

Table 5. Energy security indices for major NEA states, %

Country	Share of oil in TPES		Primary energy demand average growth rate 2006-2030	Net import oil dependency		Net import energy dependency		
	2005	2030		2005	2030	1980	2002	2030
China	22	26	3.7	46	77	-3	0	18
Korea	53	39	2.0	100	100	77	84	77
Japan	52	42	0.5	99.7	100	88	82	78
Russia	18	19	0.7	0	0	-42	-72	-67

Source: Hoesung Lee, Energy Security: Risk & Opportunity// SPEC 2003. Cooperation between the world oil and gas producing countries and Asian consuming countries. Tokyo. February 12-13, 2002; Hiroyuki Ishida, Energy Strategies in China and India and Major Countries Views. IEEJ: March 2007 (accessed on <<http://enen.iej.or.jp>>); APEC Energy Demand and Supply Outlook 2030. pp. 22-27; 39-43; 44-48; 79-84.

As the data on Table 5 testifies, the economic impact of oil imports varies between NEA countries. Indeed, in 2005, Japan and Korea's net imports of crude oil and petroleum products were equivalent to 12 % and 13 % of their exports of goods and services respectively, while only 7 % of Chinese exports were needed to pay for oil imports. On the other hand, if Japan and Korea had already managed their economic development under the hardships of total dependence on energy imports, China is yet to meet the challenges created by the steadily growing gap between required energy and resources at its disposal.

Having realized the numerous risks of their energy supplies, NEA governments embarked on the promotion of a variety of policies to diversify oil supplies, encourage the use of substitute fuels, develop and apply technologies that use oil and other hydrocarbons more efficiently. In doing so NEA states employ traditional instruments similar to those, which constituted energy policies of the US and EU in addition to other specific ones. NOCs that were discussed above are especially designed to encourage private-sector companies to invest in foreign equity supply for domestic use. It goes without saying, any equity in foreign oil or gas field cannot dissolve resource supply insecurities (as it is not exempt from political disruption in the exporting country, war, piracy, terrorism or UN sanctions), but certainly diversification can help reduce the overall risk.

In NEA, prospects for intra-regional energy cooperation have been explored since the 1990s. To address but one example, there was a proposal for establishment of Northeast Asian Energy Community (NEAEC). NEAEC would enable cooperation on a broad range of aspects between "haves" (resource-rich, like Russia) and "have-nots" (resource-poor, but wealthy and technologically advanced countries like Japan and Korea).

The need for cooperation is certainly ripe. This is primarily due to immense increase in the region's energy demand as the consequence of China's phenomenal economic growth. Overall increase of primary energy consumption in NEA has been phenomenal to say the least, and greater than that observed in any other region. According to the IEA, in 2003, compared to figures for 1971, Asia's energy consumption has increased five-fold while overall world consumption has increased only two-fold. Asia's share of world energy consumption increased from 9.3 % in 1971 to 24.4 % in 2003, and is predicted to reach 28.4 % in 2030. In terms of increase from 1971, Korea has raised its consumption by five times, China by three times and Japan by two times respectively.

China's oil consumption, in particular has jumped due to its economic growth, low energy efficiency, increasing automobile ownership and surging petrochemical production. Since 1990 the number of automobiles registered in China has witnessed a twenty-fold increase. Moreover, China is the fastest growing automobile market in the world. Individual car ownership grew 33.5 % to about 22 mln by the end of 2006⁴⁹,

and it is already the world's second largest auto market. In fact, The Economist magazine predicts that it will become the largest in under a decade (between 2010 to 2015).

China's oil consumption surpassed Japan's in 2002, and the nation became the second largest consumer in the world after the US. According to IEA forecast, Chinese oil imports will grow from the current 2 mln b/d to 10 mln b/d in 2030. Although China is still the world's fifth largest oil producer, continuing to draw on large fields in the northeast, such as Daqing, environmental and infrastructural problems and the nation's reluctance to offer incentives for foreign investment in oil development make it unlikely that China will produce significantly more oil in future. Therefore, a greater deal of the oil required will come from imports.

The imbalance between demand and supply of energy resources in NEA is an Achilles' heel for economic development and stability of the region. Moreover, NEA depends heavily on the oil of the Middle East. According to IEA data, dependence on Middle Eastern oil in 2003 was 87.1 % for Japan, 79.8 % for Korea, and 50.9 % for China. Meanwhile, oil stockpiling is not adequately developed in the region. Since the 1970s, Japan forced by the oil crises, was the first country in the region to start oil stockpiling and by now it managed to create the most extensive stockpiling (92 days of net import is governmental and 85 days is industrial stockpiling) followed by Korea (56 and 50 days, respectively). China also came to realize such necessity and steadily works in this direction (with however yet petit stockpiling standing for 7 days, as of 2006).⁵⁰

Although energy has been identified as the most promising area for intraregional functional cooperation back in early 1990s, the proposals rested in a realm of discussions for quite a long time. This was, perhaps, because of rather low crude oil prices and endurable competition between oil consuming countries over bilateral trade with oil producing countries. However, soaring oil prices coupled with ever growing regional demand for energy resources make energy cooperation not only mutually beneficial, but inevitable.

Asian states came to realize the benefits of multilateral approach for energy cooperation.⁵¹ Speaking in concrete terms, within the framework of ASEAN+3, the EAVG and the EASG⁵² recommended a functional cooperation on energy. Additionally, the ASEAN+3 Energy Ministers' meeting has been held since 2004. On a broader scale, APEC also organized a working group on energy cooperation and has promoted dialogue among the member countries.

In NEA, energy cooperation suggests complex geopolitical and geo-economic dimensions as growing demand for energy resources coupled with declining intra-regional production leads to competition over drilling rights for the carbons deposits, including those located offshore (the Sino-Japanese and the Korean-Japanese disputes are notorious examples).

Strides for fossil fuels may intensify competition to the extent when situation cannot be ironed to multilateral satisfaction. On the other hand, pipeline construction, common usage of transit infrastructure, maintenance of sea lane security, etc. are all fields that are promising for international cooperation.

It is no exaggeration to suppose that NEA has grounds to identify common interest and promote functional cooperation in the area of energy. The following directions seem central while tackling common regional energy agenda: (-) geographical diversification of energy supply. A number of already designed energy projects in NEA (for example, oil and gas pipelines originating in deposits of the Russian East Siberia and Far East) provides plenty of opportunities to bring about sound shifts in structure of regional energy imports; (-) improvement in energy efficiency. All the states of NEA (with perhaps the only exception being the DPRK) have already realized the inevitability to develop and strictly observe measures to better energy efficiency. Without doubt, Japan leads the world with its cutting-edge energy efficient technologies. For that reason, its experience must be thoroughly studied and spread the region over; (-) building joint oil stockpile remains the field where common efforts of NEA economies are timely; (-) taking common actions for the development of alternative and renewable energies (nuclear, solar, wind, bio-fuel, etc.) is another sphere for joint activity, etc.

For NEA, these rather typical concerns of contemporary energy policy are especially pressing, as over a span of a decade, the region is to face the emergence of the world's largest energy consumer.

For a long time, NEA with its lack of cooperative relationships presented a unique case. The past years, however, have witnessed some shift towards intensification of intra-regional economic relations and establishment of partial systems of regional cooperation. Though NEA states have differing motivation for energy cooperation, unequal opportunities to carry out costs of enlarging energy interdependence and expenses linked with intraregional cooperation, the region's energy importers and its potential exporter (Russia) are becoming more cohesive while pursuing similar and complementary aims through their energy strategies.

As table 6 presents, national energy policies are of somewhat complementary nature. They reflect goals of increasing efficiency, wider use of environment-friendly technologies and diversification of energy resources.

Table 6. NEA states' interests, motivation and possibilities for energy cooperation

Country	Priorities of national energy policy	Motivation for enlarging energy cooperation	Possibilities for energy cooperation	Limitations for energy cooperation
Japan	Improve energy consumption per unit of GDP by 30 %; Reduce by 40 % dependence on oil; Reduced to 80 % oil consumption of the transport sector; Increase to no less than 40 %	Decrease reliance on Middle East energy supply; Spearhead authentic economic integration in the region; Encourage activities of NOCs	Immense private and state capital; Advanced technology	Undeveloped domestic oil and gas infrastructure; Territorial disputes

	share of oil secured by NOCs; Increase to 30-40 % share of electricity generated by nuclear power			
China	Supply security of imported energy resources; Development of environmental friendly technology; Improvement of energy efficiency; Transportation of energy resources from country's producing in the west to consumers in the east	Ensure import of energy resources in required steady growing quantities; Avoid aggravation of reliance on unsure energy markets; Diversify energy import; Lead in economic cooperation in the region; Encourage development in underdeveloped northern and eastern provinces;	State capital; Enormous in number and cost competitive work force	Excessive regulations; Sparsely developed transportation infrastructure of northern and eastern provinces; Territorial disputes
Korea	Security of energy supply; Privatisation and deregulation of energy industries; Connection of the domestic energy supply network with the international; Reform of energy demand management	Decrease high dependence on Middle East energy supply; Alleviate vulnerability stretching from the North; Participate in regional economic cooperation	State capital; Technology	North-South tensions; Territorial disputes
Russia	Liberalization and privatization of energy industry; Improvement of management for efficient development of energy resources; Coordination of energy policy between federal and regional government; R&D in energy efficiency and environmental protection; Diversification of energy export	Lessen dependence on the European energy market; Develop energy transporting infrastructure; Improve energy resources supply of Siberia and the Far East; Speed up economic development in Siberian and Far Eastern territories	State and private capital; Technology; Adequate in number and adequately skilled work force	Poorly developed fields in East Siberia and the Far East; Territorial disputes
DPRK	Self sufficiency by means of maximum development and utilization of coal, hydropower and renewable energy; Introduction of foreign capital and technology for rehabilitation of energy infrastructure; Limited cooperation run under Six-party Talks	Preserve the model of economic system unchanged, energy cooperation is by no means to alter any of its grounds	Location of geostrategic importance; Competitive work force costs	North-South tensions; Barely developed infrastructure
Mongolia	Liberalization and privatization of energy industries; Incorporation of domestic energy supply network with international system; Upgrade of domestic energy standards to global level	Fuelling economic growth; Incorporation into the international energy and economic community;	Advantageous location; Competitive work force costs	Relatively remote from the main proposed routes of NEA energy infrastructure; Underdeveloped infrastructure

Source: compiled by the author.

Establishment of an inter-governmental mechanism favorable to greater regional energy cooperation could become an essential building means for adopting a multilateral approach. A strategy for regional energy cooperation should be realistically linked with existing and projected security and geopolitical realities. It should be designed in a way allowing for addressing the interests of local communities, regions and industries in tandem with those of central bureaucracies, as well as exporters and importers. It should envisage the promotion of transparent and competitive energy markets and coordination among regional development, import needs and export opportunities. In this respect, the policy environment for cross-border energy

projects would be as important as demand projections, market access and delivery technologies.

Table 2 may serve for a better grasping of the already existing institutional and organizational grounds for international energy cooperation. In a nutshell, a five-layer structure run through a two-track approach can be put to work whatever the scenario may be. More concretely, the matter should be approached by the combined effort of official and non-official agents acting simultaneously within a global, international, regional, subregional and national frameworks through the employment of such principal instruments such as: global conventions; intergovernmental agreements/organizations addressing regional agenda; intergovernmental agreements/organizations addressing subregional cooperation; programs addressing regional or subregional issues; framework for agreements; and guidelines for legislation.

International energy projects require multilateral approach especially with regard to: (-) political and geopolitical issues in relation to physical location of both resources and principal component of energy project, and configuration of transporting infrastructure (in NEA, the main concerns of this type are the DPRK proliferation setback; bilateral intercourse China-Japan, Korea-Japan, Russia-Japan; security of sea lanes used for oil import); (-) juridical aspects involved with accomplishment of joint project, in particular for ownership rights and chiefly for rights to explore and exploit energy resources (NEA case exemplifies variation from the market to socialist economy with consequent inconsistency in national legislations in this particular field; another point hindering the matter is the territorial disputes between NEA states); (-) investment activity (regulation of the investment process, dispute settlement, etc.); (-) compatibility of the national energy complexes (in NEA, for instance, Japan has no developed national pipelines, China experiences a disparity in the volume of energy demand and supply in the north-west and south-east areas, etc.); (-) business practice shaped by intangible national value set - that is hard to define, but greatly affects all stages of project implementation.

Implementation of international energy projects encompasses cooperation on a broad spectrum of issues including production, transmission, distribution, consumption of energy, etc. Therefore, it requires clarification of participants' responsibilities and obligations in the aspects of investment and organizing of the investment process; development of principles of trade in energy resources between the nations involved in the project; elaboration of the project's security system; establishment of system for dispute settlement; introduction of mechanism for environmental preservation, etc.

Owing to such a complex nature, energy sector is sought to spur changes in functional scope and institutional capacity of regional grouping. In hindsight, EEC is believed to be a spillover from the ECSC,

“the expansive logic of sector integration” that was at work, as Haas concluded back in 1958.⁵³

Tackling the assessment of the impact of international energy cooperation on regionalism in NEA, the objective can only be reached through a multi-stage approach.

The first step of this inquiry could be an attempt to define the states' inclination for co-operation or otherwise. In doing so, methods of game theory, such as the Prisoners' Dilemma, the Battle of the Sexes, and the Pareto frontier, could be employed.⁵⁴ In order to obtain qualitative parameters for further analysis, the preliminary study of the intraregional trade and investment from the standpoint of their volumes, structure and geographical dimensions seems compulsory.

In the next stage, an approach suggested by Moravcsik⁵⁵, which allows clarification of such aspects as national preferences, interstate bargaining, and institutional choice, could be adapted. To that end, the qualitative parameters presented in Table 6 would be the starting points, for this stage analysis. A more profound examination of the NEA nations economic policies and energy strategies, as well as institutional and regulative parameters for intraregional cooperation will constitute the core for analysis of this round.

Setting off to gauge the outcome of closer intra-regional energy cooperation, principles of the Mattli's model could be applied⁵⁶. The original concept helps in defining the outcomes of integration schemes. However it can be modified for assessment of outcomes of closer integration in the energy sector.

Evaluation of the overall effect would be possible through the model presented below. Though the concept is still a rough design, it appears as a plausible framework for the organization of quantitative calculations, selection of factors, verification of their interlinkages and determination of functional relations.

$$R = F(R_e) = \sum_{c=1}^6 R_c ,$$

$$R_c = f\{e_1 \dots e_n\}$$

where R is integrated indicator of regionalism in NEA in period t ;

$F(Re)$ – function of multilateral energy cooperation cumulative impact on regionalism;

Re – index of multilateral energy cooperation cumulative impact on regionalism (casual variable) at time t ;

R_c - country's effect of involvement into intraregional energy cooperation at time t ;

c – country ($c = 1, \dots, 6$) (DPRK, China, Japan, Korea, Mongolia and Russia);

e – variables representing nation's parameters decisive to intraregional energy cooperation ($e = 1, \dots, n$) at time t .

In this stage, evaluation of the overall impact of energy cooperation between the NEA countries on regional

integration will also be attained through a number of steps. First, the factors defining the country's involvement in regional cooperation and NEA characteristics decisive to bringing about large-scale energy cooperation will be selected. Then, concrete variables characterizing these parameters will be decided. This approach will enable evaluations of the enlarged regional energy cooperation impact on each of the participating members with closing assessments of the general outcomes on the process of NEA region formation.

Conclusion

For too long, NEA with its lack of cooperative relationships has been *sui generis*. The past years, however, have witnessed an improvement, in intra-regional relations that resulted in an enormous expansion of activity in the economic frontier and gradual progress in working out an overall framework for regional cooperation.

Although NEA countries have differing motivation for energy cooperation, unequal opportunities to carry out costs of enlarging energy interdependence and expenses linked with intraregional cooperation, the region's energy importers and their sought to become significant exporter (Russia) are gaining more cohesion while pursuing similar and concurrent aims through their energy strategies.

Cooperation between NEA states in the energy sector can be developed in various forms. It had actually been started through traditional trade exchange with products shipped by tankers or delivered by railway. However, implementation of joint pipeline projects, supported by common regulative framework and organizational mechanism, could trigger positive effect across the region and generate wide-ranging benefits.

Indeed, as construction of pipelines generates profound economic impacts stretching far beyond the energy sector, it ideally serves the idea of international strategic partnership development. This form is of high potential to bring ample fruits of freed capital flows, labor force migration, optimized trade exchange, eased formalities and eventual elimination of disparities between national regulations and standards, etc. In short, the prospect that benefits of economy of scale and principles of international labor division will be produced and multiplied in a regional scope is rather high.

As a joint accomplishment of large scale energy projects naturally initiates tightening of multilateral cooperation in trade, investments, transport, environmental protection, security, dispute settlement, etc., it is accurate to anticipate that cooperation in energy sector would be a catalyst for international multiform collaboration in NEA. Eventually, development of the regional energy community would accelerate establishment of full-fledged regionalism in NEA.

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